

05-31-00

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

JC658 U.S. PTO

09/580853

05/30/00

In re Application of:

David E. Carlson

Serial No.: N/A

Examiner: Unknown

Filing Date: Herewith

Group Art Unit: Unknown

For: METHOD FOR IDENTIFICATION, CLASSIFICATION,
AND INVENTORY TRACKING

Docket No.: 81001/101/101

TRANSMITTAL SHEET

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

CERTIFICATE UNDER 37 C.F.R. 1.10: The undersigned hereby certifies that this paper or papers, as described herein, are being deposited in the United States Postal Service, "Express Mail Post Office to Addressee" having an Express Mail mailing label number of EL008454121US, in an envelope address to: Assistant Commissioner for Patents, Washington D.C., 20231 on this 30th day of May, 2000.

By

Yvonne M. Schultz
Yvonne M. Schultz

We are transmitting herewith the attached Patent Application including the following:

[XXXX] 12 sheet(s) of specification.

[XXXX] 5 sheet(s) of claim(s).

[XXXX] 1 sheet(s) of Abstract.

[XXXX] 6 sheet(s) of informal drawings.

[XXXX] Executed Declaration and Power of Attorney.

[XXXX] A verified statement(s) to establish small entity status under 37 C.F.R. 1.9 and/or 1.27 is enclosed.

[] An Assignment of the invention to _____ is being filed contemporaneous with this patent application.

[] A certified copy of a _____ application, serial no. _____, filed _____, 19____, the right of priority of which is claimed under 35 U.S.C. 119.

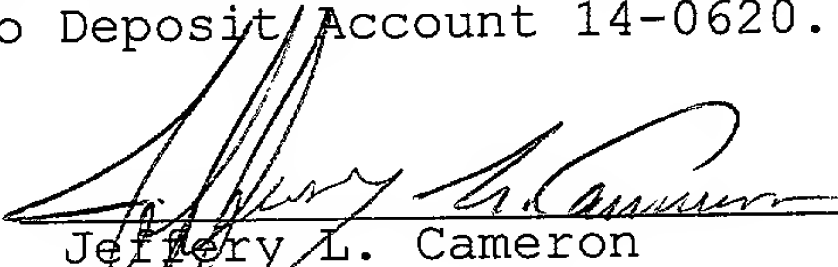
CLAIMS AS FILED						
	(1)	(2)	SMALL ENTITY		OTHER	
FOR:	# FILED	# EXTRA	Rate	Fee	Rate	Fee
BASIC FEE				\$380		\$760
TOTAL CLAIMS	20 -20 =	0	x9=	\$0	x18=	\$
INDEPENDENT CLAIMS	4 -3 =	1	x39=	\$39	x78=	\$
() MULTIPLE DEPENDENT CLAIM PRESENTED			+130=	\$419	+260=	\$
TOTAL			\$419.00		\$	

*If the difference in Column (1) is less than zero, enter "0" in Column 2.

[XXXX] Other Preliminary Amendment, and Postcard

[XXXX] A check in the amount of \$ 419.00 is enclosed.

[XXXX] Please charge any deficiencies or credit any overpayment in the enclosed fees to Deposit Account 14-0620.

By: 
 Jeffery L. Cameron
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Applicant or Patentee: David E. Carlson Docket No.: 81001/101/101
Serial or Patent No.: N/A
Filed or Issued: Herewith
For: METHOD FOR IDENTIFICATION, CLASSIFICATION, AND INVENTORY TRACKING

**VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY
STATUS (37 CFR 1.9(f) AND 1.27(b)) -- INDEPENDENT INVENTOR**

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled: METHOD FOR IDENTIFICATION, CLASSIFICATION, AND INVENTORY TRACKING.

☒ the specification filed herewith
☐ application serial no. _____, filed _____
☐ patent no. _____, issued _____

I have not assigned, granted, conveyed or licensed, and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR 1.9(c), if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d), or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed, or am under an obligation under contract or law to assign, grant, convey, or license, any rights in the invention is listed below:

☒ no such person, concern, or organization
☐ persons, concerns or organizations listed below*

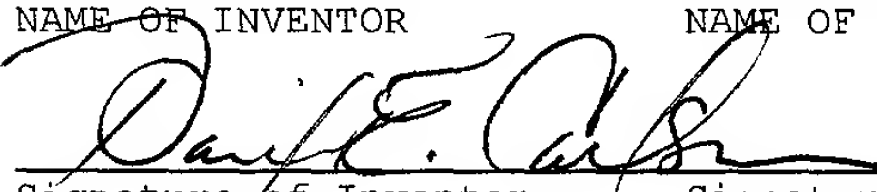
*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

FULL NAME _____
ADDRESS _____
☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION

FULL NAME _____
ADDRESS _____
☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

David E. Carlson
NAME OF INVENTOR NAME OF INVENTOR NAME OF INVENTOR

Signature of Inventor Signature of Inventor Signature of Inventor
5/25/00
Date Date Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

David Carlson

Filed : May 30, 2000

For : METHOD FOR IDENTIFICATION, CLASSIFICATION, AND
INVENTORY TRACKING

Docket No. : 81001/101/101

PRELIMINARY AMENDMENT

Assistant Commissioner
for Patents
Washington, D.C. 20231

CERTIFICATE UNDER 37 C.F.R. 1.10

The undersigned hereby certifies that this paper is being deposited in the United States Postal Service, "Express Mail Post Office to Addressee" having an Express Mail mailing label number of: EL008454121US, in an envelope addressed to Assistant Commissioner for Patents, Washington, D.C. 20231, on this 30th day of May, 2000.

By: Yvonne M. Schultz

Yvonne M. Schultz

Sir:

When the Examiner takes this case up for action, he is respectfully requested to take into account this Preliminary Amendment including the remarks included herein.

Preliminary to the first Office Action in the above entitled application, please amend the Application as follows:

Please change the name of the Application to:

ARTICLE AND METHOD FOR IDENTIFICATION, CLASSIFICATION, AND
INVENTORY TRACKING

REMARKS

This amendment is made to clarify Applicant's invention. Applicant asks that the Examiner consider this amendment in the examiner's initial evaluation of the Application.

Please charge any deficiencies or credit any over payment to Deposit Account 14-0620.

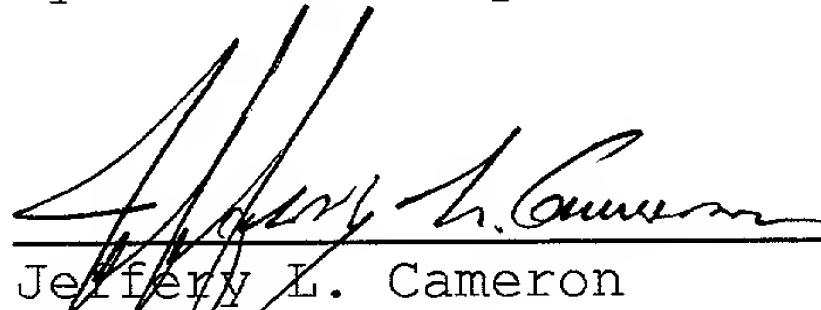
Respectfully submitted,

David Carlson

By his attorney

Date

5/30/00



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METHOD FOR IDENTIFICATION, CLASSIFICATION, AND INVENTORY
TRACKING

Background of the Invention

5 The present invention relates generally to the field of
identification, classification, and inventory tracking of
articles sold or stored in bulk. In particular, the present
invention relates to an article and method utilized for
identifying, classifying, and tracking articles that are
10 packaged or stored in bulk wherein the packaging is such
that only one surface of the articles are viewable by the
user.

Some articles are packaged in bulk and sent to the
consumer in that condition, and when the consumer receives
15 the articles, the packaging is opened in such a way that
only one surface of the articles is visible. The articles
can be packaged such that the articles themselves could be
visible, or alternatively, they could be packaged in boxes
or cartons having a surface visible. One such example is in
20 the field of elongated fluorescent light bulbs.

When bulbs are commercially sold, they are shipped in
cartons. The cartons contain a number of bulbs and are
typically opened on one end, thereby exposing the end
surface of one end of each bulb. When the carton is opened,

all of the visible end surfaces are identical and all of the end surfaces are unmarked. Typically, the carton is used to store the new bulbs and when the new bulbs are placed into service, old, used, or depleted bulbs are often placed into
5 the carton until they can be properly disposed of. This method of using a single carton to store the new and old bulbs reduces the space needed to store the new and old bulbs, reduces the risk of breakage, and reduces the amount of handling required to place the bulbs in a second carton.

10 The problem for the user, is that the new and old bulbs look alike when viewed from their end surfaces. Therefore, the user must at least partially remove bulbs from the carton in order to identify whether any particular bulb is a new or old one. This process takes time and increases the
15 risk of damaging the bulbs. For individual applications each time a bulb is changed, the process must be repeated. In commercial applications, where large numbers of bulbs are changed, when the process is repeated for each bulb over the course of a day, the time spent becomes significantly more
20 tangible.

Furthermore, as the carton becomes filled with old, used, or depleted bulbs, the task of finding a new bulb becomes increasingly difficult because the ratio of new bulbs to old bulbs becomes smaller. Other systems have been

attempted wherein two cartons are utilized, one carton for new bulbs and one carton for old, used, or depleted bulbs. However, this system needs twice as much storage space and typically requires the user to take two cartons along during the changing of the bulbs. Furthermore, when an empty carton is used to hold the old, used, and/or depleted bulbs, there is a substantially higher risk of breakage of the bulbs because the bulbs can more readily move around within the confines of the carton.

Therefore, there is a need in the art of identification, classification, and inventory management for an article and method that enables a user, of articles shipped in bulk, to identify, classify, and track an article merely from a visible surface of the article.

The present invention addresses these needs, as well as other problems associated with the identification, classification, and inventorying of articles stored or shipped in bulk.

Summary of the Invention

The present invention relates to an article and method for identification, classification, and inventory tracking of articles in bulk. Each article has a first state. The state is the condition of the article includes such states as new, used, broken, or depleted, etc. When the article is

in its first state, it will have a perception that is an identifiable characteristic which differentiates it from articles being in other states. The article has a second perception that is representative of a second state of the
5 article. The second perception may be fixed upon or within the article or, in the alternative, the first perception may be such that, when the article changes state, the first perception changes into the second perception.

The method comprises providing at least one article
10 having a first state and a second state and providing each article with a first perception indicating the first state and a second perception indicating the second state of the article.

The above mentioned benefits and other benefits of the
15 invention will become clear from the following description by reference to the accompanying drawings.

Description of the Drawings

Figure 1 is a elevated side perspective view of a carton containing bulk packaged articles upon which the
20 present embodiment of the invention may be used;

Figure 2 is an elevated side perspective view of a typical unmarked article;

Figure 2a is an overhead perspective view of a carton of bulk packaged articles as shown in **Figure 1**;

Figure 3 is an overhead perspective view of a carton and bulk packaged articles having a first perception according to the present invention;

Figure 4 is an overhead perspective view of the
5 articles wherein some articles have been removed and replaced showing a second perception;

Figure 5 is an elevated side perspective view of an alternative style of marking according to the present invention;

10 **Figure 6** is an elevated side perspective view of another alternative style of marking according to the present invention;

Figure 7 is an elevated side perspective view of one means of marking the articles in accordance with the present
15 invention;

Figure 8 is an elevated side perspective view of another alternative style of marking using a label being applied according to the present invention;

Figure 9 is an elevated side perspective view of an
20 article having a label applied according to the present invention; and

Figure 10 is an elevated side perspective view of another alternative style of marking being applied according to the present invention.

Description of the Preferred Embodiment

As shown in **Figures 1** and **2**, a package 10 of bulk articles 12 can be difficult to use if the articles are not marked to differentiate the different types of articles that exist within the package. For example, elongated fluorescent light bulbs typically have no markings on their end surfaces 14, as shown in **Figures 2** and **2a**. Since the end surfaces 14 are exactly the same, there is no way to differentiate, for example, the used bulbs from the new bulbs, or to differentiate between different types of bulbs within the same package. The user must at least partially remove the article from the packaging or storage carton in order to identify what the status of the article is.

The present invention provides an article and method for identifying the different articles stored together or shipped within the same package without having to remove the articles from the package. The article and method will make finding a particular article from a bulk supply of articles more time efficient, requires less handling, and requires less storage space because no additional cartons, packaging or containers are needed. Furthermore, by not having to remove the articles from the packaging to identify them or having to collect or store the articles in a separate container, the risk of damage to the articles is reduced,

and the conservation of handling and space are achieved.

Figures 3 and **4** provide a pictorial example of how the method accomplishes its goal of providing identification, classification, and inventory tracking. As shown in **Figure**
5 **3**, the articles 12 may be packaged with at least one surface 14, having an identifiable characteristic 16 thereon and having the surfaces 14 of the articles 12 bearing the characteristic 16, oriented along one side of the packaging 10.

10 In the case where the marks 16 are already on the articles, when the packaging is opened from the side on which the marks have been aligned, the surfaces 14 having an identifiable characteristic 16 are visible. It is foreseeable that all of the surfaces of the article may have
15 different identifiable characteristics, however, for the purposes of this invention, only one surface need be marked with a characteristic that is identifiable from those of the other surfaces. For example, an article may be packaged in a box. One side of the box may have red markings on it,
20 while another side has a blue background color. These two indicators could be used to differentiate new from used, if the articles were oriented properly.

Alternatively, the articles 12 may be packaged in an unmarked condition and the marking may be applied at a later

time. For example, as shown in **Figures 1, 7, and 8**, labels 18 on backing layer 24 have been included in the carton 10 for subsequent application to the articles 12 by the user.

In the case of the flourescent bulbs shown in **Figures 3** and 4, the bulbs 12 have one end surface marked with a square 16 and one end surface unmarked. As shown in **Figure 3**, the articles 12 are all oriented such that all of the end surfaces 14, marked with a square 16, are aligned together. This orientation provides the same first perception of each article.

In this case, if the user had opened the carton 10 at the other end, the user would have seen all of the surfaces 14 having unmarked ends. Therefore, with an article that is logically only visible at either one end or the other, the method could be implemented regardless of which end of the carton was opened. It is foreseeable that the outside surface of the packaging 10 could be marked to indicate which side of the package to open to expose the surfaces 14 of the articles bearing the desired identifiable symbol.

Once the desired side of the packaging 10 is opened, the articles 12 are ready for use. Typically, in the field of flourescent bulbs, when a new bulb 20 is removed, a used bulb 22 is inserted into the package in its place. Due to the possibility of breakage of some of the articles, it is

foreseeable that the package will not remain completely full.

When a used article 22 is placed into the package, it is oriented such that the second identifiable characteristic is visible. This second perception differentiates the used articles 22 from the new articles 20. As shown in **Figure 4**, the used bulbs 22, having a surface with no marking visible, are easily differentiable from the new bulbs 20 having a surface with a square symbol 16 visible. In this example, the square symbols 16 act as the first identifiable characteristic providing a first perception which indicates that the state of these bulbs is new and the lack of marking acts as the second identifiable characteristic providing a second perception that is different from the first which indicates that the state of these articles is not new. As can be ascertained by **Figure 4**, by using the article of this invention and this method, a user can easily tell which articles should be removed for use.

The differentiation may be made by any means known in the art and may be applied at the factory or by the user. The different characteristic may be that one surface is marked and another is not marked.

It is also foreseeable that the new articles could be differentiated from used articles using a variety of

characteristics indicating a variety of different states.
For example, new articles could have no marking, broken
articles could have a star symbol, used but still operable
articles could be represented by a "U" symbol. This system
5 allows the user to store all articles together while still
being able to easily differentiate between them.

The marking of the articles may be accomplished in many
ways. The articles may have different visible surfaces
having different characteristics so that when the articles,
10 after they have been used, are reinserted into the
packaging, the articles are oriented such that the different
surface is visible, and it thereby distinguishes the used
article from the new article.

The article may also be configured with a first
15 identifiable characteristic that changes into a second
identifiable characteristic over time or is actuated when it
is used for its intended purpose. For example, in the field
of flourescent bulbs, the end of the bulb may be designed
with a material that changes color when electricity acts
20 upon it. The old bulb is then able to be differentiated
from the new bulbs by the changed color of its end surface.
In this way, the first perception changes into the second
perception when the state of the article changes.

The article may also have an indicator device attached

to it that changes over time or when it is actuated through use of the article. For example, a switch or a meter may be installed on the visible surface that, when activated, will provide a visible indicator of the article's condition.

5 Some other examples of marking systems may be: using a symbol such as a letter, number, trademark, generic symbol or combination. For example, using the letter "N" on one surface for new and "U" on another surface for used. Another alternative identification system, may be provided
10 by using color or shape.

A color may be used to differentiate the state of the article by coloring a portion or the entire surface. For example, using green on one surface for new and red on another surface for used.

15 The overall shape of the surface may be the identifiable feature. This may be achieved by altering the topography of the surface, including for example, the use of divots or bumps, or the shape of the perimeter of the surface may be different. For example, one surface may have
20 a circular perimeter, while another surface has a hexagonal surface.

Additionally, it is foreseeable that different types of articles, having different marking schemes, could be included in a single package or may be stored together. In

this case, the different types of new articles could be differentiated from each other by different first identifiable characteristics, and could be differentiated from articles having other states by either one or more
5 second identifiable characteristics.

The articles, as shown in **Figures 2a** and **3**, are examples of a system of marking that could be used with the present invention. **Figures 5** and **6** and **8-10**, shown individual articles 12 having a variety of different
10 examples of identifiable characteristics 16 that may be used within the scope of this invention.

Since many possible embodiments may be made of the present invention without departing from the scope thereof, it is to be understood that all matter herein set forth or
15 shown in the accompanying drawings is to be interpreted in the illustrative and not a limiting sense.

That which is claimed is:

1. An article for easy identification, classification, and inventory tracking, the improvement comprising said article having a first state and a second state, a first perception and a second perception, said first perception indicating said first state and said second perception indicating said second state.

2. An article according to Claim 1, wherein said first state is as an unused article and said second state is as a used article.

3. An article according to Claim 1, wherein said article has a plurality of surfaces and wherein said first perception is provided by a first identifiable characteristic located on one said surface and said second perception is provided by a second identifiable characteristic located on another of said surfaces.

4. An article according to Claim 3, wherein said first identifiable characteristic is a first color and said second identifiable characteristic is a second color.

5. An article according to Claim 1, wherein a plurality

of said articles are contained together in bulk and wherein said articles are aligned such that said first identifiable characteristics are aligned along one side of the packaging.

6. An article according to Claim 5, wherein the packaging encloses said articles with an exterior surface and wherein a portion of the exterior surface that is proximal to the alignment of said first identifiable characteristics contains a marking.

7. An article comprising a first state and a second state, and a first perception and a second perception, said first perception indicating said first state and said second perception indicating said second state.

8. An article according to Claim 7, wherein said first and second perceptions are incorporated into said article during manufacturing of said article.

9. An article according to Claim 7, wherein said first and second perceptions are incorporated into said article after the manufacturing of said article.

10. An article according to Claim 7, wherein said article further comprises a means for changing said first

perception into said second perception when said article changes to a different state.

11. An article according to Claim 10, wherein said means for changing said first perception is comprised of the chemical composition of at least a portion of the material comprising said article.

12. An article having a first state and a second state, a first perception and a second perception, comprising:

a means for indicating said first state from said second state wherein said first perception indicates said first state and said second perception indicates said second state.

13. An article according to Claim 12, wherein said article is an elongated fluorescent light bulb having two ends and each said end having an end surface thereon.

14. An article according to Claim 13, wherein said first perception is provided by an identifiable characteristic located on one of said end surfaces.

15. An article according to Claim 14, wherein said first perception is provided by a first identifiable characteristic located on one of said end surfaces and said second perception is provided by a second identifiable characteristic located on said second end surface.

16. An article according to Claim 12, wherein said first identifiable characteristic comprises a symbol.

17. A method for identifying, classifying, and inventory tracking goods having at least a first state and a second state, comprising the steps of:

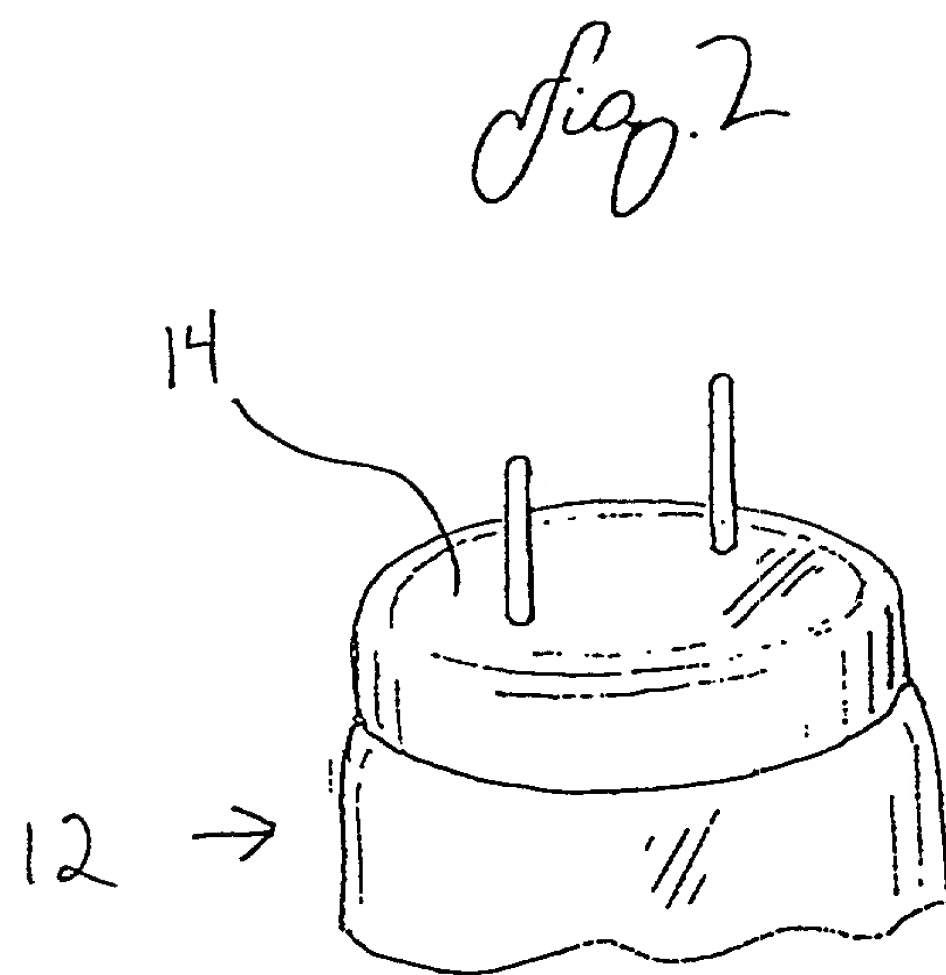
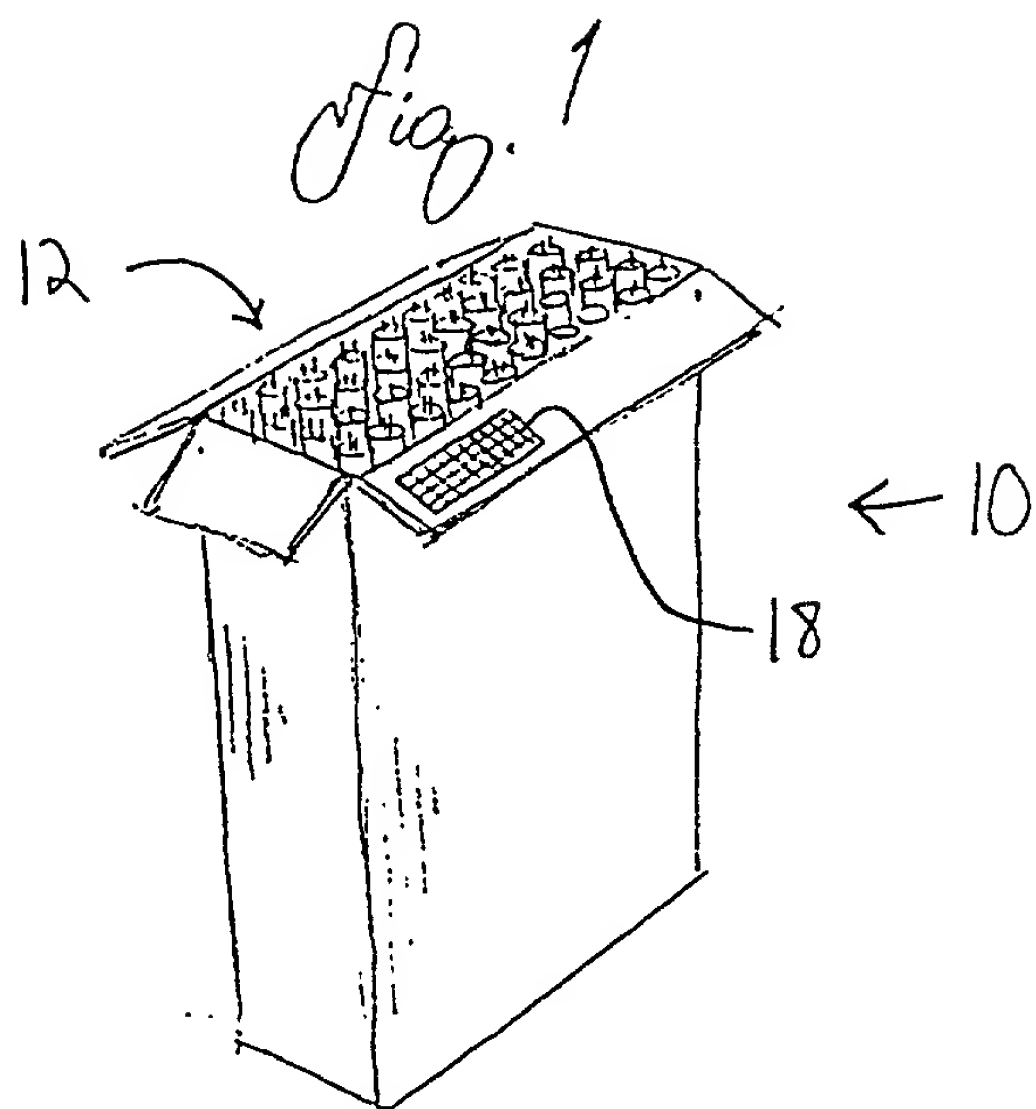
providing at least one article having at least a first state and a second state; and

providing each said article with a first perception indicating said first state and a second perception indicating said second state.

18. An article according to Claim 17, wherein said article has a plurality of surfaces and wherein said first perception is provided by an identifiable characteristic comprising the shape of one of said surfaces.

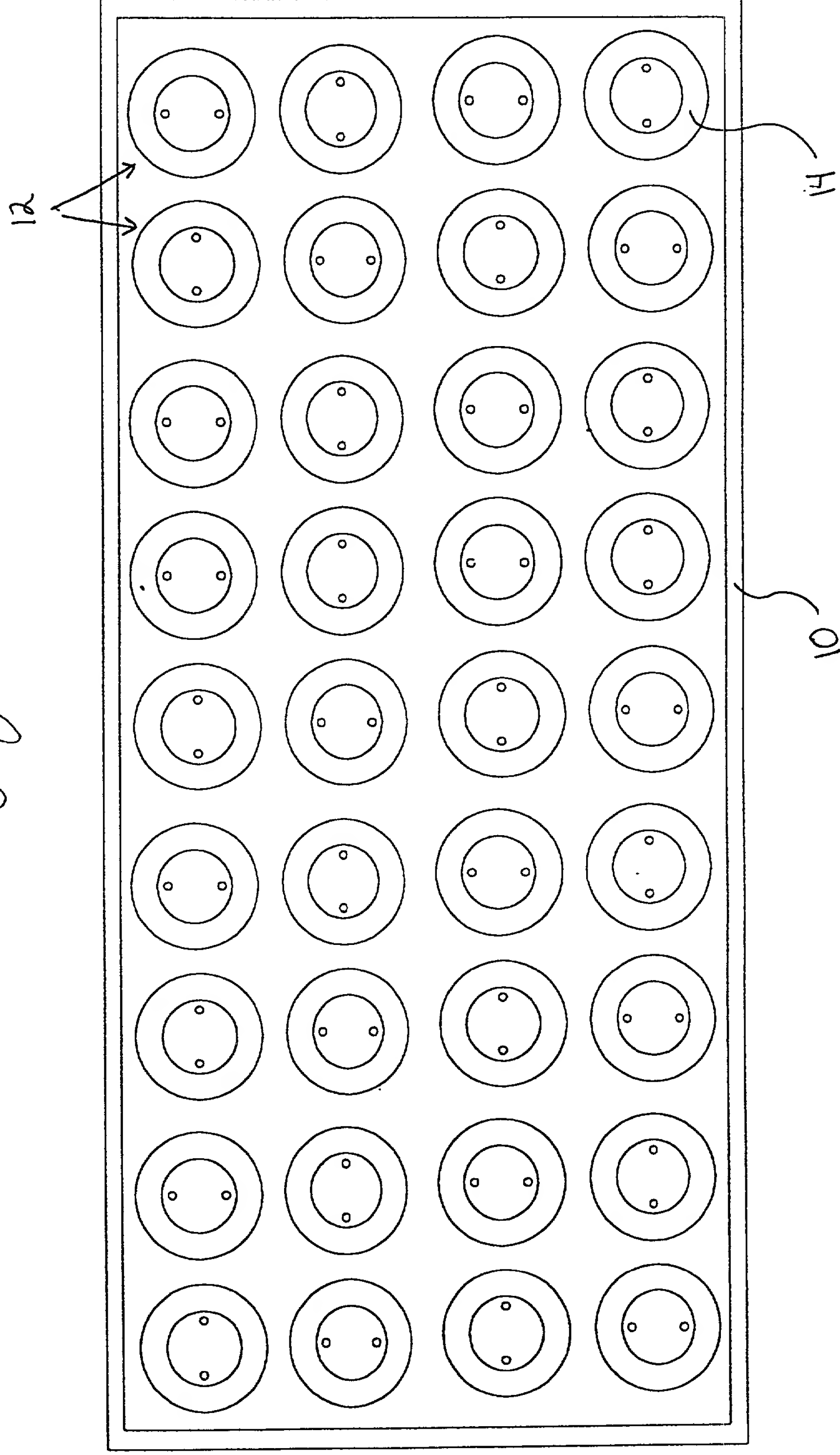
Abstract of the Disclosure

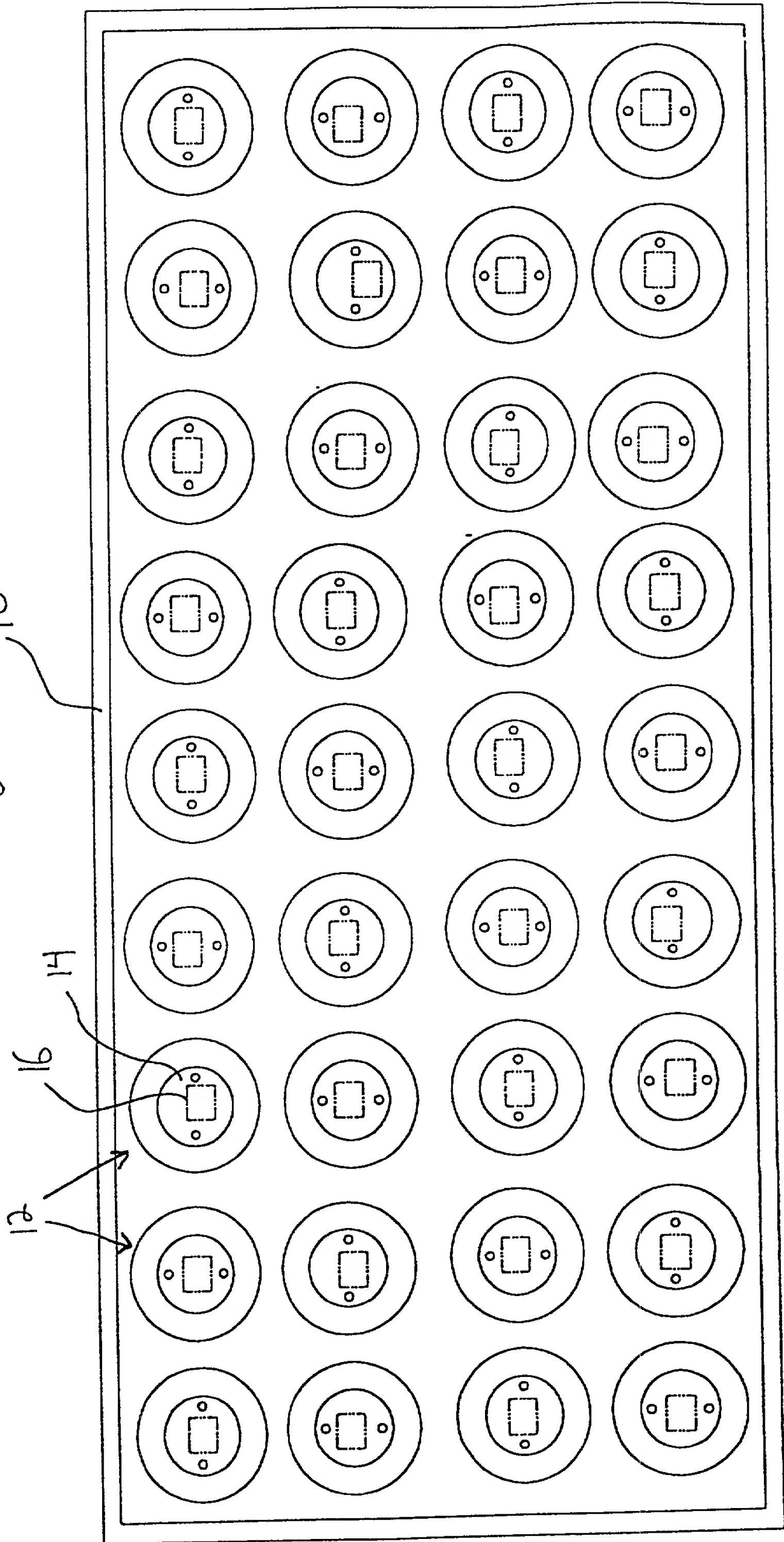
The present invention relates to an article and method for identification, classification, and inventory tracking of articles in bulk. The article has a first state and a second state. The state is the condition of the article including such states as new, used, broken, or depleted. When the article is new, it will have a perception indicating its state. The perception will be different from other perceptions of the article because of an identifiable characteristic which differentiates it from articles being in other states. The article has a second perception that is representative of a second state of the article. The second perception may be fixed upon or within the article or, in the alternative, the first perception may be such that, when the article changes state, the first perception changes into the second perception. The method of the invention comprises providing at least one article having at least a first state and a second state and providing each article with a first perception indicating the first state and a second perception indicating the second state of the article.

[illegible]

[illegible]

2a



[illegible]


```

# ===== 1. Import Libraries =====
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
import warnings
warnings.filterwarnings('ignore')

# ===== 2. Load Data =====
# Load the dataset
data = pd.read_csv('data.csv')

# ===== 3. Data Exploration =====
# Check the shape of the data
print(f'Dataset Shape: {data.shape}')

# Check the first few rows
print(data.head())

# Check the data types
print(data.dtypes)

# Check for missing values
print(data.isnull().sum())

# ===== 4. Data Cleaning =====
# Drop rows with missing values
data = data.dropna()

# ===== 5. Data Analysis =====
# Calculate the mean of the target variable
mean_target = data['target'].mean()

# Calculate the standard deviation of the target variable
std_target = data['target'].std()

# ===== 6. Data Visualization =====
# Histogram of the target variable
plt.hist(data['target'], bins=10, color='blue', edgecolor='black')
plt.title('Histogram of Target Variable')
plt.show()

# Box plot of the target variable
plt.boxplot(data['target'], color='red')
plt.title('Box Plot of Target Variable')
plt.show()

# Scatter plot of the target variable vs. feature 1
plt.scatter(data['feature_1'], data['target'], color='green', edgecolor='black')
plt.title('Scatter Plot of Target Variable vs. Feature 1')
plt.show()

# ===== 7. Data Splitting =====
# Split the data into training and testing sets
from sklearn.model_selection import train_test_split

X = data[['feature_1', 'feature_2', 'feature_3']]
y = data['target']

X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)

# ===== 8. Model Training =====
# Import the Linear Regression model
from sklearn.linear_model import LinearRegression

# Create a Linear Regression model
model = LinearRegression()

# Train the model
model.fit(X_train, y_train)

# ===== 9. Model Evaluation =====
# Predict the target variable for the test set
y_pred = model.predict(X_test)

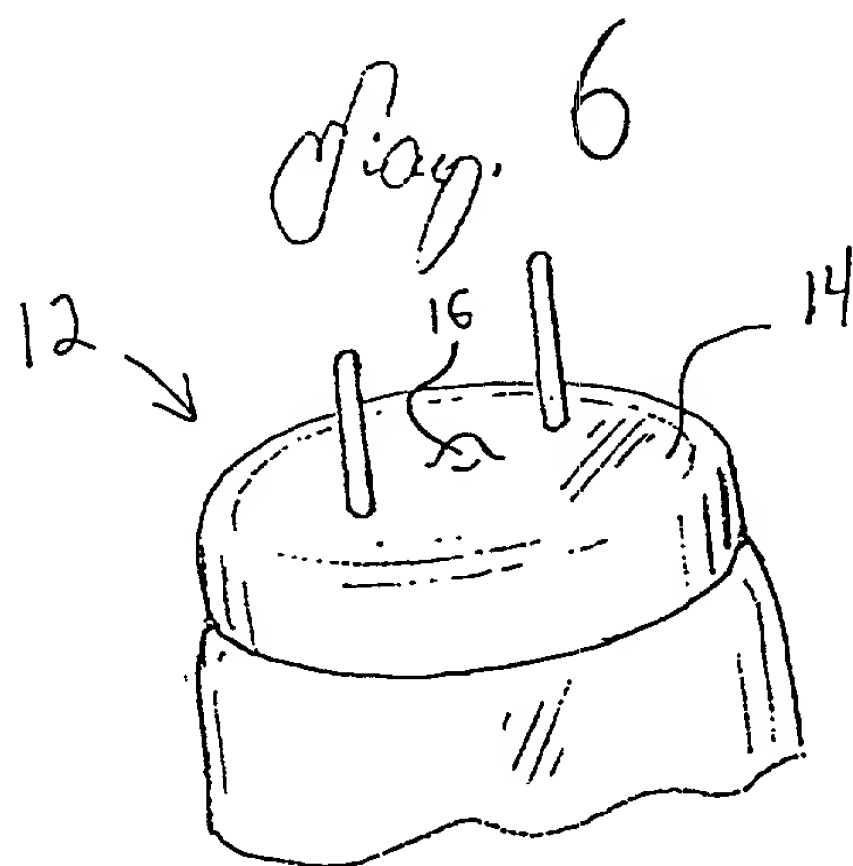
# Calculate the Mean Squared Error (MSE)
mse = np.mean((y_test - y_pred)**2)

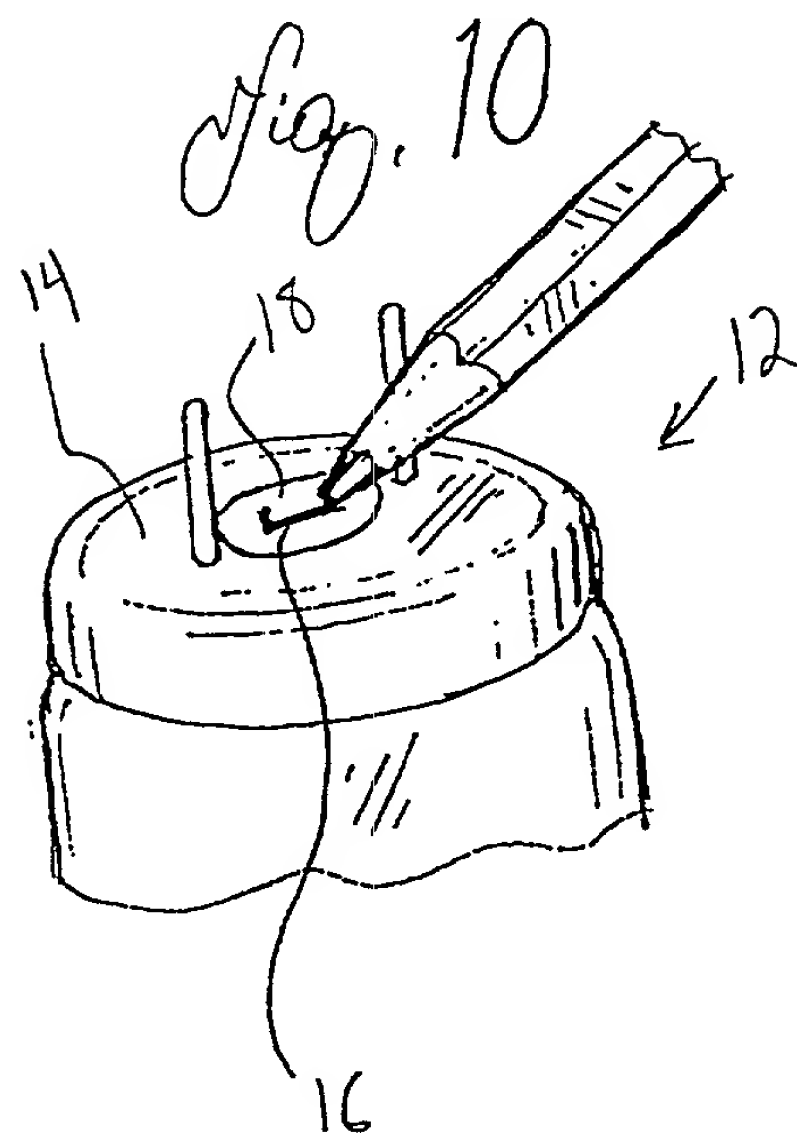
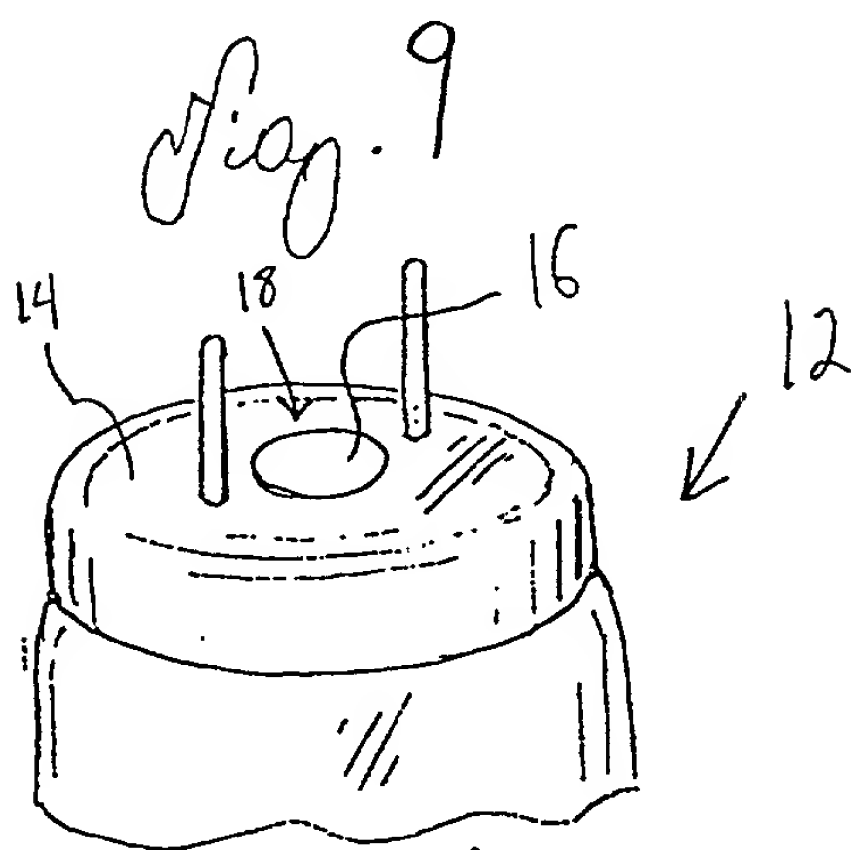
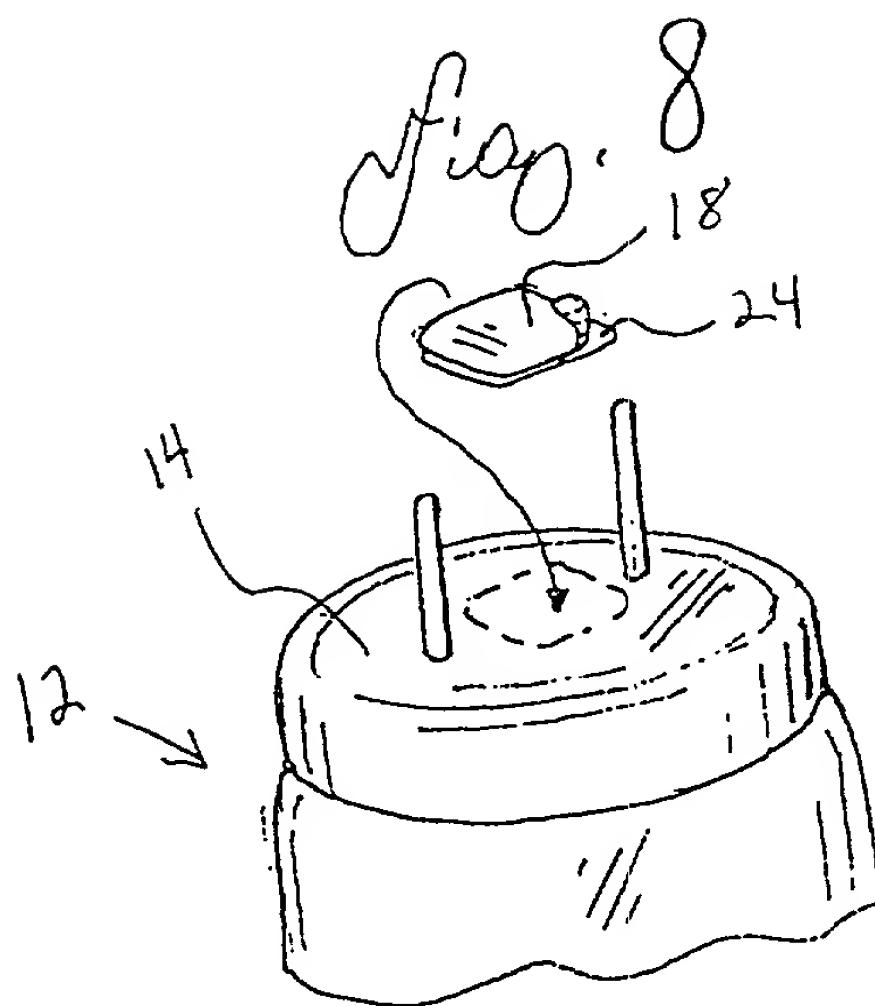
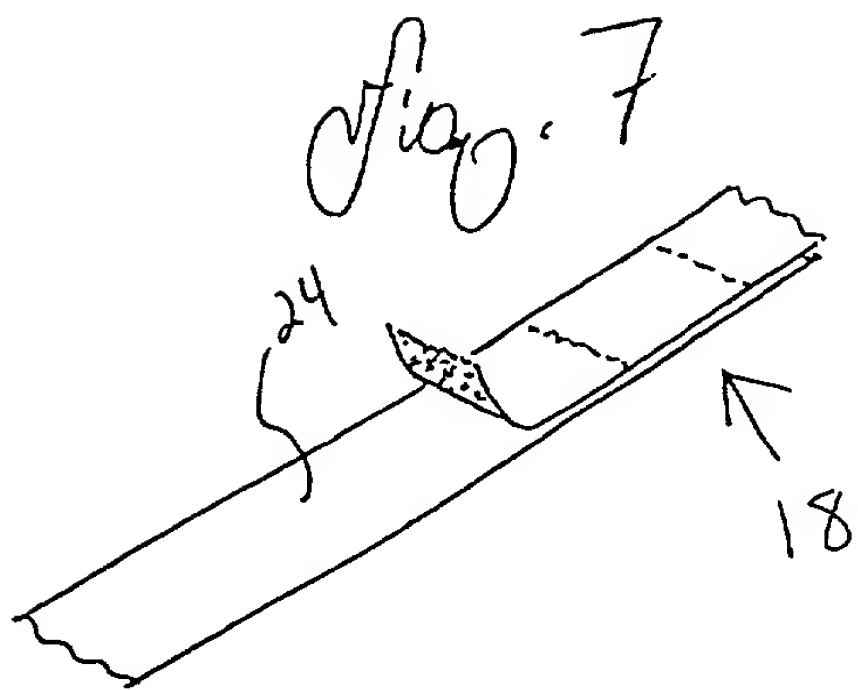
# Print the MSE
print(f'Mean Squared Error (MSE): {mse}')

# ===== 10. Model Interpretation =====
# Print the coefficients of the model
print(f'Coefficients: {model.coef_}')

# Print the intercept of the model
print(f'Intercept: {model.intercept_}')

```



[illegible]

COMBINED DECLARATION/POWER OF ATTORNEY FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe that I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled METHOD FOR IDENTIFICATION, CLASSIFICATION, AND INVENTORY TRACKING the specification of which (check one)

XX is attached hereto

___ was filed on _____
as U.S. Application
Serial No. _____

___ and was amended on (if
applicable) _____

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefit(s) under Title 35, United States Code §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application(s) for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)			Priority Claimed	
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	_____ YES	_____ NO
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	_____ YES	_____ NO
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	_____ YES	_____ NO

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty

to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

(Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)
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(Serial No.)	(Filing Date)	(Status-patented, pending, abandoned)
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POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

John L. Rooney, Reg. No. 28,898;
Lawrence M. Nawrocki, Reg. No. 29,333;
Wayne A. Sivertson, Reg. No. 25,645; and
Richard C. Stempkowski, Jr., Reg. No. 45,130;
Jeffery L. Cameron, Reg. No. 43,527; and
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Send correspondence to:

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon, I further declare that I understand the content of this declaration.

Full name of sole or first inventor David E. Carlson
Inventor's Signature *David E. Carlson* Date 5/25/00
Residence 1861 Melrose Avenue
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1.56 Duty to disclose information material to patentability.

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is cancelled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is cancelled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

- (1) prior art cited in search reports of a foreign patent office in a counterpart application, and
- (2) the closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

(b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and

(1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or

(2) It refutes, or is inconsistent with, a position the applicant takes in:

- (i) Opposing an argument of unpatentability relied on by the Office, or
- (ii) Asserting an argument of patentability.

A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

(c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

(1) Each inventor named in the application:

(2) Each attorney or agent who prepares or prosecutes the application; and

(3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.

(d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.